

Listing of Claims:

Claim 1. (Currently amended): A slurry for chemical mechanical polishing (CMP) of a structure including a refractory metal based barrier film and a dielectric film, comprising:

a bulk solution;

~~a plurality of [[composite]] particles and at least one selective adsorption additive, said composite particles including an inorganic core surrounded by a shell including said selective adsorption additive, wherein said selective adsorption additive is in a concentration of from 6 to 1,000 critical micelle concentration (CMC) when said selective adsorption additive is non-ionic and from 1 to 1,000 CMC when said selective adsorption additive is zwitterionic, anionic or cationic, said selective adsorption additive self assembling in said bulk solution, wherein said particles comprise at least one of:~~

nanoporous particles,

composite particles formed from a first solid material coated with a second solid material, said second solid material being different from said first material, and

two phase composite particles where a first solid material phase is blended with a second solid material phase different from said first material phase.

Claim 2. (Currently amended): The slurry of claim 1, ~~[[wherein]]~~ further comprising at least one selective adsorption additive, said composite particles including an inorganic core surrounded by a shell including said selective adsorption additive, wherein said selective adsorption additive is in a concentration of from 6 to 1,000 critical micelle concentration (CMC) when said selective adsorption additive is non-ionic and from 1 to 1,000 CMC when said

selective adsorption additive is zwitterionic, anionic or cationic, said selective adsorption additive self assembling in said bulk solution ~~said selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 3 CMC.~~

Claim 3. (Currently amended): The slurry of claim [[1]] 2, wherein said selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 6 CMC.

Claim 4. (Currently amended): The slurry of claim [[1]] 2, wherein selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 10 CMC.

Claim 5. (Currently amended): The slurry of claim [[1]] 2, wherein said selective adsorption additive comprises at least one cationic, anionic or zwitterionic surfactant, wherein a minimum concentration of said surfactant is 20 CMC.

Claim 6. (Currently amended): The slurry of claim 1, wherein said [[inorganic cores]] second solid material coating said first solid material comprises a nanoporous material [[particles]].

Claim 7. (Cancelled)

Claim 8. (Previously presented): The slurry of claim 1, further comprising at least species selected from the group consisting of a polyhalide ion, I₂, Br₂ and F₂.

Claim 9. (Currently amended): The slurry of claim ~~[[1]]~~ 2, wherein said selective adsorption additive exhibits substantial adsorption to said dielectric layer, said dielectric film selected from the group consisting of silicon dioxide, silicon nitride and low K materials.

Claim 10. (Currently amended): The slurry of claim ~~[[1]]~~ 2, wherein said selective adsorption additive exhibits adsorption to a copper or silver containing film greater than adsorption to said refractory metal based barrier film.

Claims 11-16. (Cancelled)

Claim 17. (Original): The slurry of claim 1, further comprising at least one organic solvent.

Claim 18. (Original): The slurry of claim 1, further comprising at least one passivating additive for inhibiting the oxidation of a copper or silver containing film.

Claim 19. (Original): The slurry of claim 18, wherein said passivating additive comprises at least one selected from the group consisting of benzotriazole (BTA), tolyltriazole (TTA), imidazole, thiols, mercaptans, oxalic acid, sodium hexanoate and carboxylic acid.

Claim 20. (Original): The slurry of claim 1, further comprising at least one complexing agent.

Claim 21. (Original): The slurry of claim 20, wherein said complexing agent comprises at least one selected from the group consisting of acetic acid, citric acid, tartaric acid and succinic acid.

Claim 22. (Currently amended): The slurry of claim [[1]] 2, wherein said selective adsorption additive comprises a mixture of at least one anionic surfactant and at least one cationic or zwitterionic surfactant.

Claim 23. (Currently amended): The slurry of claim [[1]] 2, wherein said selective adsorption additive comprises at least one surfactant selected from the group consisting of SAS, SDS, CTAB, and CTAC octylphenol ethylene oxide condensate, polyoxyethylene sorbitan monooleate, and a water soluble copolymer of an average molecular weight of approximately 15,000 consisting of α -olefins and dicarboxylic acids, partially esterified with an ethoxilated alcohol.

Claim 24. (Currently amended): The slurry of claim [[1]] 2, wherein said selective adsorption additive comprises CTAB or CTAC, and said first solid material [[inorganic cores]] comprises silica.

Claim 25. (Original): The slurry of claim 24, wherein said CTAB comprises C₁₂TAB.

Claim 26. (Currently amended): The slurry of claim 25, [[wherein said]] further comprising an oxidizer [[is at least one]] selected from the group consisting of hydrogen peroxide, potassium ferrocyanide, potassium iodate, and perchlorates.

Claims 27 and 28. (Cancelled)

Claim 29. (Currently amended): The slurry of claim [[1]] 2, wherein said selective adsorption additive comprises at least one polymer.

Claim 30. (Original): The slurry of claim 29, wherein said polymer is at least one selected from the group consisting of polyethylene oxide (PEO), polyacrylic acid (PAA), polyacryamide (PAM), polyvinylalcohol (PVA) and polyalkylamine (PAH).

Claim 31. (Original): The slurry of claim 1, further comprising at least one salt.

Claim 32. (Original): The slurry of claim 31, wherein said salt is at least one selected from the group consisting of chlorides, nitrates and ammonium-based salts.

Claim 33. (Original): The slurry of claim 1, wherein a pH of said slurry is from 6 to 13.

Claim 34. (Original): The slurry of claim 1, wherein a pH of said slurry is from 8 to 11.

Claim 35. (Original): The slurry of claim 1, wherein a concentration of said composite particles [[core particles]] in said slurry is from approximately 1% to 40% by weight.

Claim 36. (Original): The slurry of claim 1, further comprising at least one oxidizer.

Claim 37. (Original): The slurry of claim 36, wherein said oxidizer is at least one selected from the group consisting of hydrogen peroxide, potassium ferrocyanide, potassium iodate and perchlorates.

Claims 38-71. (Cancelled)